

- Fig. 2.* Inner face of the same arm with four suckers. Slightly enlarged.  
*Fig. 3.* Horny rim of a sucker, showing the arrangement of the sharp teeth, usually on the distal margin of the rim. Enlarged.

## PLATE VIII.

- Fig. 1.* Masses of perivisceral corpuscles near the bases of the feet of *Nereis diversicolor*, O. F. M., 7th December, 1906.  $\times$  Zeiss oc. 2, obj. F.  
*Fig. 2.* Male elements. Similarly magnified.  
*Fig. 3.* Large corpuscles floating freely in the cœlomic space, 21st January, 1907.  $\times$  Zeiss oc. 2, obj. F.  
*Fig. 4.* Postlarval form of 23th May, 1907, with three bristle-tufts (one rudimentary).  
*Fig. 5.* Another of same date with three bristle-bundles.  
*Fig. 6.* Mandible of the foregoing.  $\times$  Zeiss oc. 2, obj. D.  
*Fig. 7.* Postlarval form of 28th May with five bristle-bundles. Magnified.  
*Fig. 8.* Postlarval form of 28th May with eight bristle-bundles. Magnified.

XXVIII.—*Descriptions of apparently new Species and Sub-species of Mammals belonging to the Families Lemuridæ, Cebidæ, Callitrichidæ, and Cercopithecidæ in the Collection of the Natural History Museum.* By D. G. ELLIOT, D.Sc., F.R.S.E., &c.

HAVING for some time been engaged in the study of the Primates, it was found necessary to investigate the material contained in the various great museums in the Old World, and, beginning with the vast collection of the Primates contained in the Natural History Museum, London, my friend Mr. Oldfield Thomas, Curator of Mammalogy in that institution, not only most kindly gave me every facility for pursuing my studies, but also requested that I would describe any specimen that I found in the collection that I considered might be new. In various genera the Museum is very rich both in number of species and examples, and the advantage one possessed in working with such splendid material is exemplified in the comparatively large number of new forms contained in this paper. My thanks, therefore, are especially due to Mr. Thomas for the opportunity, not only of examining the great collection under his care, but of making known to mammalogists the various forms that seemed worthy of special recognition.

## Family Lemuridæ.

## Genus GALAGO.

*Galago zuluensis*, sp. n.

*Type locality.* Zululand, East Africa.

*Gen. char.* Similar to *G. Hindei*, but browner and with much larger ears; tail darker and shorter. Skull one third larger than that of *G. Hindei*, teeth larger.

*Colour.* Head and upperparts broccoli-brown and grey mixed, darkest on the head; outer side of limbs wood-brown; dorsal line washed with Mars brown; underparts and inner side of limbs yellowish white; hands and feet greyish brown; tail above pale Mars brown, beneath paler; ears black.

*Measurements.* Total length about 570 mm.; tail 320; ears 31 (skin). Skull: occipito-nasal length 70; hensel 57; zygomatic width 46; intertemporal width 19; palatal length 28; breadth of brain-case 33; length of nasals 19; length of upper molar series 29; length of mandible 46; length of lower molar series 23.

B.M. no. of type 94. 6. 29. 1.

This animal is of about the same size in head and body-length as *G. Hindei*, but has a considerably shorter and much darker tail. When the two are placed side by side *G. Hindei* appears like a grey animal in comparison. The ears of the present form are about one third larger both in length and width. In their dried and shrunken state they measure 31 mm. in length and 27 mm. wide, while those of *G. Hindei* are 24 mm. by 22 mm. respectively. There is such a vast difference in the size of the skulls and teeth that they hardly admit of comparison. In colour *G. zuluensis* is much like *G. crassicaudatus*, but has a much smaller skull, it being midway between *G. crassicaudatus* and *G. Hindei*, with all the differences such a disparity of size would create.

*Galago Hindei*, sp. n.

*Type locality.* Kitui, Athi River, British East Africa. Altitude 3500 feet.

*Gen. char.* Size large, colour pale; ear small; tail very long. Smaller in total length than either *G. crassicaudatus* or *G. Garnetti*.

*Colour.* Head and upperparts pale wood-brown, washed on head and dorsal region with darker brown; arms and hands like head; outer side of legs isabella-colour; feet dark

brown; chin vinaceous cinnamon; rest of underparts white; tail above pale wood-brown, beneath whitish.

*Measurements.* Total length about 575 mm.; tail 370; hind foot 86; ear 39. Skull: occipito-nasal length 63; hensel 49; zygomatic width 42; intertemporal width 20; palatal length 23; breadth of brain-case 29; length of nasals 19; length of upper molar series 19; length of mandible 41; length of lower molar series 20.

B.M. no. of type 1. 5. 6. 2.

The skull of this form is considerably smaller than that of either *G. crassicaudatus* or *G. Garnetti*. In colour it differs in being paler and in the very long, pale, almost white tail. Two specimens are in the Museum collection varying slightly in colour, the paratype having unfortunately lost half its tail.

*Galago gabonensis* *Batesi*, subsp. n.

*Type locality.* Como River, Gaboon, West Africa.

*Gen. char.* Similar to *G. gabonensis*, but much darker above and has a black tail and light grey feet, and from *G. Alleni* it is distinguished by its black tail and grey feet and legs below the knee.

*Colour.* Forehead, base of ears, cheeks, stripe between eyes, and nose light grey; top of head and hind-neck and upperparts dark mummy-brown; outer side of arms dark tawny; a patch of tawny on thigh, the upper portion darker than the lower; rest of legs brownish grey, becoming clear grey on feet; throat and front of neck yellowish, rest of lower parts whitish; hands greyish mummy-brown; tail seal-brown, sprinkled with grey on basal half. Ears large, blackish.

*Measurements.* Total length 470 mm.; tail 250. Skull: occipito-nasal length 48; hensel 38; zygomatic width 32; intertemporal width 18; palatal length 19; width of brain-case 24; length of nasals 13; length of upper molar series 16; length of mandible 31; length of lower molar series 14.

B.M. no. of type 96. 10. 9. 4.

While this race has a general resemblance to both *G. Alleni* and *G. gabonensis*, it can readily be distinguished from both: by its grey legs and feet from *G. Alleni*, and from *G. gabonensis* by its grey feet, darker upperparts, and black tail. The two forms come together on the Como River, but there are no intermediate specimens.

*Galago braccatus*, sp. n.

*Type locality.* Mount Kilimanjaro, East Africa.

*Gen. char.* Similar to *G. gallarum*, but darker grey above,

and the bright buff of the limbs ends abruptly on meeting the grey colour, and does not grade into it as in the allied species.

*Colour.* Head and neck buff, the hairs tipped with black, giving to these parts a grizzled appearance; rest of upperparts iron-grey; orbital ring black; stripe between eyes, nose, upper lip, neck, and chin grey; outer side of arms and legs buff; hands and feet yellowish grey; inner side of thighs and underparts yellowish white; tail dark Prout's brown, hairs tipped with white; ears large, naked, black.

*Measurements.* Total length about 480 mm.; tail 300 (skin). Skull: occipito-nasal length 45; hensel 32; zygomatic width 29; intertemporal width 19; palatal length 15; width of brain-case 24; length of nasals 12; length of upper molar series 13; length of mandible 26; length of lower molar series 13.

B.M. no. of type 2. 11. 5. 1.

This rather handsome species was obtained by Mr. A. B. Percival on Mount Kilimanjaro, East Africa. While allied to *G. gallarum*, Thomas, it is easily distinguished from that species by its dark grey colour and the abruptness with which the buff and grey come together on the legs. As is to be expected of an animal dwelling at a high altitude, the fur is thick and long. There are no perceptible differences in the skulls.

*Galago nyasæ*, sp. n.

*Type locality.* Mountains south of Lake Nyasa, Central Africa.

*Gen. char.* Fur woolly; tail bushy; skull, though much broken, exhibits great differences from that of *G. sennar-ensis*, ranging from the White Nile south to Ankola west of the Victoria Nyanza. The rostrum is long and more slender, the nasals long and narrow; the palate is long and narrow, and not so wide posteriorly as in the skulls of *G. sennar-ensis*; the anterior line of the orbit is in front of  $m^1$  instead of in front of  $pm^1$ , as seen in the other; there is only a slight rise of the frontal above the rostrum, thus causing the superior outline of the skull to be flatter.

*Colour.* General hue above broccoli-brown; outer side of arms broccoli-brown; legs cream-buff; chest cream-buff; underparts and inner side of limbs yellowish white.

*Measurements.* Total length about 355 mm.; tail 185 (skin). Skull: from frontal suture to end of nasals 27; length of nasals, median line, 10; width of rostrum at canines 7; length of palate 15; width between last molars 7; length of

upper molar series 13; length of mandible 24; length of lower molar series 13.

The type and an example in alcohol from Zomba, Nyasaland, are the only representatives of this species in the collection.

B.M. no. of type 64. 12. 10. 15.

While perhaps this species resembles *G. gallarum* in colour more than any other, the skull, in its long and narrow rostrum and low crown, is very different. The type was procured by Dr. Kirk, when he was accompanying Dr. Livingstone, the famous African explorer.

#### Subgenus HEMIGALAGO.

#### *Galago Thomasi*, sp. n.

*Type locality.* Fort Benin, Semliki River, Central Africa.

*Gen. char.* Larger than *G. Demidoffi*; colour quite different. Skull much larger; differently shaped brain-case, much broader in occipital region and higher over roots of zygomata; teeth much larger.

*Colour.* Head and upperparts drab, washed with Mars brown on head and dorsal region; stripe between eyes and nose yellowish white; outer side of limbs drab; underparts and inner side of limbs buff; tail Mars brown.

*Measurements.* Total length 347 mm.; tail 210; hind foot 58; ear 28. Skull: occipito-nasal length 40; hensel 28; zygomatic width 25; intertemporal width 16; palatal length 14; breadth of brain-case 21; length of nasals 12; length of upper molar series 11; length of mandible 22; length of lower molar series 11.

B.M. no. of type 6. 12. 4. 58.

This, the fourth member of the subgenus *Hemigalago*, differs from all the others in colour and dimensions, being the largest of all, and cannot well be compared with or mistaken for any of them. The skull shows many and great differences from those of the other species. The type was procured on the boundary-line of Uganda and the Congo Free State, and a second and somewhat darker specimen at Dumo, Uganda. Whether it penetrates farther into the Congo Region or is confined to Uganda is unknown.

#### Family Cebidæ.

#### Genus AOTUS.

#### *Aotus boliviensis*, sp. n.

*Type locality.* Province of Sara, Central Bolivia.

*Gen. char.* Similar in colour to *A. Azaræ*, but cranial

characters quite different. Orbits wider and higher; orbital portion of frontal bulging outward, forming a decided curve from the frontal to the nasals; nasals longer and wider; brain-case longer and narrower posteriorly; extreme width across orbits much greater; superior outline of skull much less curved; angle of occipital region much less; teeth larger, particularly the last upper molar; space from posterior edge of foramen magnum to interparietal much greater; basioccipital between bullæ much wider.

*Colour.* Similar to *A. Azaræ*, but more tinged with red on upperparts; a white spot near each eye extending back upon the head; a broad black line on middle of forehead from nose to between ears and a narrow black line from corner of eye on each side of the head bordering the white spot; upperparts mixed iron-grey and russet, becoming more brownish on lower back; cheeks and chin white; sides yellowish brown; inner side of limbs and underparts pale orange-ochraceous; hands and feet dark greyish brown; tail mixed ochraceous rufous and black on basal half, remainder black. The hairs of tail are all ochraceous rufous at base, and this shows more or less throughout the entire length.

*Measurements.* Total length 720 mm.; tail 400; hind foot 100; ear 35. Skull: total length 64; occipito-nasal length 61.5; lensel 44; zygomatic width 40.5; intertemporal width 33; extreme width of orbits 45; height of orbits 21; length of nasals 12; width of brain-case 35; distance from foramen magnum to interparietal 11; width of basioccipital between bullæ anteriorly 3.5; length of upper molar series 14; length of mandible 41; length of lower molar series 16.

B.M. no. of type 7. 8. 2. 9.

While similar in colour to *A. Azaræ*, the present species differs greatly in its cranial characters. The skull is much larger and the brain-case considerably longer, while the orbits are enormous, very large even for these big-eyed animals. Two specimens (a male and female) were obtained by Mr. J. Steinbach in the Province of Sara, Central Bolivia.

#### Genus SAIMIRI.

##### *Saimiri macrodon*, sp. n.

*Type locality.* Copataza River, Ecuador.

*Gen. char.* Similar to *S. sciurea*, but hands and feet much darker. Skull has a much higher and narrower brain-case, much wider palate, larger teeth, with the external line of the

upper tooth-row much more curved; zygomatic arch wider and intertemporal width greater; bullæ narrower and longer.

*Geogr. distr.* Upper waters of the Amazon in Ecuador, and Peru.

*Colour.* General colour like *S. sciurea*, with the back darker, that of the type being tawny and black on the dorsal region; golden yellow and black on the flanks; arms above elbows dark grey washed with yellow; legs paler; underparts yellowish white; the forearms, hands, and feet tawny; head and tail like *S. sciurea*.

*Measurements.* Size similar to *S. sciurea*. Skull: occipito-nasal length 64.5 mm.; zygomatic width 43; intertemporal width 32; length of nasals 11; width of brain-case 36; height of brain-case above zygomata 35; palatal length 19; length of upper molar series 16; width of palate between canines 12; width of palate between last molars 13.

B.M. no. of type 80. 5. 6. 15.

While the general colour of this animal resembles that of *S. sciurea* from the east coast of South America, it is at once noticeable by its much darker forearms, hands, and feet. The greatest differences, however, between the two forms are exhibited in the skulls and in the large teeth of the present species. The brain-case has quite a different shape, being long and narrow, with an elevated forehead sloping rapidly downward to the occiput, which is narrow and rounded. The palate is wider throughout its length; the teeth much larger, the canines longer and stouter. Several examples were obtained in the type locality and others from the Jurna River, a tributary of the Amazon, and from Marcapata, Peru.

## Genus CALLICEBUS.

### *Callicebus ustofuscus*, sp. n.

*Type locality.* "Brazil."

*Gen. char.* Allied to *C. cupreus*, but much darker in colour; teeth much larger; palate longer and narrower; brain-case wider; space between pterygoid processes and bullæ and the width of basioccipital throughout its length greater. Practically the skull is larger in every way and more massive. Mandible longer and heavier, and the depth of the ramus greater.

*Colour.* General hue above burnt-umber, the hairs being slaty-grey at base, then annulated with two bands of slate and two of clay-colour, and a dark tip. Face naked, black; top of head a mixed dark ochraceous rufous and black, the

black predominating on the forehead; the rump is redder than the back and is a burnt-sienna on the outer side of the limbs; hands and feet claret-brown; sides of head, throat, inner side of limbs, and underparts maroon; basal third of tail black, the hairs being chestnut with broad black tips, rest of tail mixed black and yellowish grey or very pale clay-colour, the underside of tail being almost altogether clay-colour; ears black.

*Measurements.* Size about the same as *C. cupreus*. Skull: occipital region has been cut away; intertemporal width 32 mm.; zygomatic width 41; palatal length 21; width between last molars 12; breadth of brain-case 35; length of nasals 9; length of upper molar series 14; length of  $m^1$  5; length of mandible 42; extreme height of mandible 35; length of lower molar series 17.5.

B.M. no. of type 51. 7. 3. 1.

This species is nearest *C. cupreus*, but is altogether different in colour and darker in all its hues. The skulls also are not at all in accord, the differences mentioned being very conspicuous when they are compared. The unique example has no history beyond the statement that it came from Brazil.

*Callicebus subrufus*, sp. n.

*Type locality.* Pachitea, Ucayali River, Peru. Altitude 400 to 500 feet.

*Gen. char.* Allied to *C. leucometopa*, but colour entirely different.

*Colour.* Face black; a narrow black bar on forehead above eyes, succeeded by a broader one of white; rest of head on top, neck, and entire upperparts bright russet, becoming darker and more reddish on the rump, the hairs being slate at base, then alternately ringed with slate and bright russet, or on the rump with slate and dark russet or reddish; arms to elbows and thighs to knees grey, the hairs being seal-brown at base, then russet, and tips grey, this colour overlying the rest; hands and feet and rest of limbs bright chestnut-red; sides of face, whiskers, inner side of limbs, throat, chest, and middle of abdomen bright chestnut-red; fingers and toes yellowish grey; tail, basal third black, with chestnut hairs mixed with black at the root, remainder light grey above, whitish beneath; hair on ears white.

*Measurements.* Size about equal to that of *C. leucometopa*. Skull: occipito-nasal length 51 mm.; hensel 40; zygomatic width 35; intertemporal width 29; palatal length 18; breadth of brain-case 33; nasals broken; length of upper



molar series 16; length of mandible 35; length of lower molar series 16.

B. M. no. of type 4. 7. 7. 2.

While allied to *C. leucometopa*, the great difference in colour the present species exhibits makes it easily recognizable. In its yellowish-grey fingers and toes it shows a leaning towards *C. ornatus*, but in other respects it has no resemblance to that species.

### Genus LAGOTHRIX.

#### *Lagothrix lugens*, sp. n.

*Type locality.* Mountains 2° 20' north of Tolima, Colombia. Altitude 5000 to 7000 feet.

*Gen. char.* Body stout, heavy, as in *L. lagotricha*, but colour very different; fur thick, woolly; limbs moderately long; tail very long and very broad at base.

*Colour.*—*Male.* Head, arms, and body dark purplish brown, almost black; legs and tail blackish brown washed with grey, the hairs being blackish brown at base, then black and tipped with grey or yellowish; breast reddish chestnut, rest of underparts black.

*Measurements.* Size same as *L. lagotricha*. Skull: total length 112 mm.; occiput broken; occipito-nasal length 105; zygomatic width 74; intertemporal width 45; palatal length 34; breadth of brain-case 57; length of brain-case from end of nasals 79; length of nasals 13; width of nasals anteriorly 13; length of upper molar series 24; length of mandible 74; length of lower molar series 30.5.

B. M. no. of type 90. 2. 22. 2.

Two specimens are in the collection which differ so markedly from all other members of the genus that it is impossible to assign them to any described species. The fur is soft and very thick, particularly so at the base of the tail. One is dark purplish brown or blackish on the upperparts to rump, and blackish to grey on legs and tail; the other is darker. The skulls resemble, as may be expected, those of *L. lagotricha* and *L. infumatus* in general, but the nasals have a depression in the middle and the anterior portion stands at a right angle to the posterior and are very broad anteriorly; the brain-case is shorter than in the skulls of the other species and the narial opening is of a different shape, like a heart but not so pointed, more rounded on the lower side.

Family *Cercopithecidæ*.Genus *PAPIO*.*Papio strepitus*, sp. n.

*Type locality.* Fort Johnston, Nyasaland, S.E. Africa.

*Gen. char.* Size large, exceeding the dimensions of *P. pruinus*; hair very long, loose; face partly naked; brain-case about two thirds the length of the facial region; nasals only slightly raised above rostrum, wide anteriorly; pit in side of lower jaw long and deep; palate narrow and of nearly equal width throughout its entire length; tooth-rows straight.

*Colour.* Forehead mixed pale yellow and black; crown and nape dull tawny ochraceous, centre of crown darker, the hairs ringed with dull tawny ochraceous and black, those on side Prout's brown at base, rest tawny ochraceous. The appearance of the crown and nape is more reddish than yellow, with a dark central portion; sides of head below ears buff; lower part of neck to middle of back purplish drab and ochraceous buff; base of hairs purplish drab, the rest ringed with black and ochraceous buff, some hairs tawny ochraceous tipped with black. The purplish drab of the base of hairs dominates the other colours and gives a kind of dark patch to this part of the back. On the shoulder is a patch of hairs, buff at their roots, graduating to cream-buff at their tips, not ringed; lower part of back paler than the upper, more yellow showing, and over all the upperparts are numerous long hairs with whitish tips; flanks ochraceous buff; upper part of arms, entire legs, and feet ochraceous buff; forearms and hands mixed ochraceous buff and black, the latter being the colour of the base of the hairs showing through; underparts yellowish grey; tail at base like back, mixed black and ochraceous, tip ochraceous buff; cheeks and sides of nose and the lips covered with short yellowish hairs; upper eyelids flesh-colour, space beneath the eyes and the nose black.

*Measurements.* Head and body 915 mm.; tail 609 (skin). Skull: total length 195; occipito-nasal length 160; hensenel 139; intertemporal width 58; zygomatic width 115; palatal length 86; breadth of brain-case 79; length of nasals 72; anterior width of nasals 14; length of upper molar series 45; length of mandible 115; length of lower molar series 60.

B.M. no. of type 97. 10. 1. 9.

The general appearance of this species is that of a yellowish animal, with a brownish back and a reddish head and limbs, and underparts whitish grey. This is the effect the various colours of the hairs produce when glanced at. In coloration it belongs to the light-hued baboons, of which section *P. babuin* may be considered a representative. Looked at in certain lights the hairs have a greenish-yellow tint, but when carefully examined the colours are as given in the description and unlike any of the other species. Two specimens were obtained by Sir H. H. Johnston in Nyasaland, the type at Fort Johnston and the other at Zomba on Lake Nyasa. The species bears no resemblance whatever to *P. pruinus*, Thomas, also procured at Fort Johnston, either in colour or in the characters of the skull.

### GENUS COLOBUS.

#### *Colobus tephrosceles*, sp. n.

*Type locality.* Ruahara River, Toro, altitude 4000 feet, Central Africa.

*Gen. char.* Similar to *C. rufomitratu*s, but differs in not having any black on the head between tufts, in the pale coloured arms and legs, in the grey-brown basal portion of the tail, in the absence of black stripe between ears and shoulders, and in the feet and hands being brownish black instead of dark olive-brown. Upright tufts on sides of crown above ears.

*Colour.* A narrow black band on forehead extending backwards to ears; top of head and nape dark rusty brown; upright tufts dark rusty brown, mixed with some brownish-black hairs tipped with yellow, these showing chiefly on the outer side of the tufts; sides of head between ears and eyes blackish grey, the hairs hiding the ears; side of lip purplish grey, this extending over the lower jaw; hairs on upper part of back long, covering the shoulders, brownish black, grading into dark Prout's brown on sides and rump; outer side of arms pale greyish brown; outer side of legs pale brownish grey, lighter than the arms; underparts and inner side of limbs greyish white; hands brownish black; feet Vandyke brown; tail, basal third greyish brown, remainder blackish brown, grading into black at tip.

*Measurements.* No skull to type specimen. Another skull without skin, procured by Sir H. H. Johnston in Toro, has total length 116 mm.; occipito-nasal length 95; hensel 84; zygomatic width 78; intertemporal width 44; palatal

length 45; length of nasals 16; length of upper molar series 29; length of mandible 81; length of lower molar series 35.

B.M. no. of type 1. 8. 9. 129.

Three examples of this remarkable monkey were procured by Sir H. H. Johnston (one adult and two young) on the east side of Mount Ruwenzori at an altitude of 4000 feet. It is evidently closely allied to *C. rufomitratu*s from the coast, but exhibits quite sufficient differences in colour and markings to entitle it to a distinctive rank. As the species was not seen by the members of the Ruwenzori Expedition, lately returned to England, it must be considered as rare even in its own district.

XXIX.—*On Mammals from Northern Persia, presented to the National Museum by Col. A. C. Bailward.* By OLDFIELD THOMAS, F.R.S.

IN 1905 Col. A. C. Bailward made a shooting-trip across Persia, taking with him Mr. R. B. Woosnam to pay special attention to the collecting of natural history specimens, and he then obtained the series of mammals of which I gave an account during the succeeding winter\*.

During the present year Col. Bailward has again been to Persia, taking Mr. Woosnam with him, but this time to the northern part of the country, between Teheran and the Caspian, and there Mr. Woosnam has collected the specimens enumerated below. Few in number as they are, for the trip was quite a short one, they include no less than five new forms, while all of them are most valuable accessions to the Museum, which had previously possessed almost nothing from that region. We thus have reason to be most grateful to Col. Bailward for taking advantage of his trip to increase our National Collections in a region as yet so poorly represented in the Museum; and the marked success of the present expedition should encourage him and others to repeat the experiment.

1. *Pipistrellus Kuhli*, Natt.

♂. 120. Teheran, Persia. 4600'.

A pale form, probably representing *P. lepidus*, Bly.

\* P. Z. S. 1905, ii. p. 519.